

1337 S. 46th Street Building 201 Richmond, CA 94804

Date:

7/3/2013

Subject:

Analytical Testing Results - Project R13S76

SDG: 13172C

From:

Brenda Bettencourt, Director

EPA Region 9 Laboratory

MTS-2

To:

Kelly Manheimer

California Site Cleanup Section 3

SFD-7-3

Attached are the results from the analysis of samples from the **Tujunga Wellfield May 2013 IDW Sampling** project. These data have been reviewed in accordance with EPA Region 9 Laboratory policy.

A full documentation package for these data, including raw data and sample custody documentation, is on file at the EPA Region 9 Laboratory. If you would like to request additional review and/or validation of the data, please contact Eugenia McNaughton at the Region 9 Quality Assurance Office.

If you have any questions, please ask for Richard Bauer, the Lab Project Manager at (510)412-2300.

Electronic CC:

Caroline Carter, CH2MHill

John Lindquist, CH2MHill

Analyses included in this report:

Alkalinity

Anions by Ion Chromatography

Perchlorate by Ion Chromatography

Sulfide by Titration



1337 S. 46th Street, Building 201, Richmond, CA 94804 Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Kelly Manheimer

California Site Cleanup Section 3

Project Number: R13S76

75 Hawthorne Street

SDG: 13172C

Reported: 07/03/13 14:43

Project: Tujunga Wellfield May 2013 IDW Sampling

San Francisco CA, 94105

ANALYTICAL REPORT FOR SAMPLES

,					
Sample ID		Laboratory ID	Matrix	Date Collected	Date Received
TJ-MW-09B		1306055-01	Water	06/20/13 11:00	06/21/13 10:30
TJ-MW-09DUP		1306055-03	Water	06/20/13 11:05	06/21/13 10:30
TJ-MW-09EB	·	1306055-05	Water	06/20/13 14:30	06/21/13 10:30

SDG ID 13172C

Sulfide analysis: No additional sample bottle was received for sulfide matrix spike analysis. No lab quality control could be performed for sulfide analysis.

Work Order(s)

1306055



1337 S. 46th Street, Building 201, Richmond, CA 94804 Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Kelly Manheimer

California Site Cleanup Section 3

Project Number: R13S76

75 Hawthorne Street

Project: Tujunga Wellfield May 2013 IDW Sampling

San Francisco CA, 94105

SDG: 13172C

Reported: 07/03/13 14:43

Sa	m	nle	R	esu	lte
o a		DIC	- 17	COU	

Analyte	Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed	Method
Lab ID: 1306055-01							Water -	Sampled:	06/20/13 11:00
Sample ID: TJ-MW-09B Hydroxide Alkalinity		ND	U -	10	Conve mg/L	ntional Chemist B13F135			IA/EPA Methods SM2320/SOP560
Carbonate Alkalinity	•	ND	U .	10	**	"	"	11	SM2320/SOP560
Bicarbonate Alkalinity		320	ı	10	"	"	"	**	SM2320/SOP560
Total Alkalinity		320)	10	**	11	n	• "	SM2320/SOP560
Fluoride	RE2	0.24	٠.	0.10	**	B13F131	06/24/13	06/24/13	300.0/SOP 530
Chloride		30	J, Q4	.1		B13F109	06/21/13	06/21/13	300.0/SOP 530
Nitrite as N	•	ND	U	0.10		"	11		300.0/SOP 530
Nitrate as N		5.5		0.10	**		"	"	300.0/SOP 530
o-Phosphate, as P		ND	U	1	. #	11	**	,	300.0/SOP 530
Sulfate	RE1	120	٠.	2.5	**	" .	"	06/21/13	300.0/SOP 530
Perchlorate	•		J, Q4	2	ug/L	B13F132	06/26/13	06/26/13	314.0/SOP531
Sulfide		ND	. U	0.98	mg/L	B13F118	06/24/13	06/24/13	SM 4500 S2-/SOI 565
Lab ID: 1306055-03			•				Water -	Sampled:	06/20/13 11:05
Sample ID: TJ-MW-09DUP Hydroxide Alkalinity		ND	U .	10	Conve mg/L	ntional Chemist B13F135	ry Paramet 06/26/13		IA/EPA Methods SM2320/SOP560
Carbonate Alkalinity		ND	U	10	n .		n .	"	SM2320/SOP560
Bicarbonate Alkalinity		320		10	17	. "	11	"	SM2320/SOP560
Total Alkalinity		320		10	**	"	11	. "	SM2320/SOP560
Fluoride	RE2	0.27		0.10	н	B13F131	06/24/13	06/24/13	300.0/SOP 530
Chloride	•	30		. 1	**	B13F109	06/21/13	06/21/13	300.0/SOP 530
Nitrite as N		. ND	U .	0.10	",	u .	н	n	300.0/SOP 530
Nitrate as N		5.5		0.10	" .		я .	"	300.0/SOP 530
o-Phosphate, as P	•	ND	.U	1	11		11		300.0/SOP 530
Sulfate	RE1	130		2.5		**	"	06/21/13	300.0/SOP 530
Perchlorate		8.8		. 2 .	ug/L	B13F132	06/26/13	06/26/13	314.0/SOP531
Sulfide ,	•	. ND	U	0.98	mg/L	B13F118	06/24/13	06/24/13	SM 4500 S2-/SOI 565
Lab ID: 1306055-05				. ,			Water -	Sampled:	06/20/13 14:30
Sample ID: TJ-MW-09EB Hydroxide Alkalinity	•	ND	Ü	. 10	Conve mg/L	ntional Chemist B13F135	ry Paramet 06/26/13	ters by APF 06/27/13	IA/EPA Methods SM2320/SOP560
Carbonate Alkalinity	•		U .	01	"	н	, "	11	SM2320/SOP560
Bicarbonate Alkalinity		ND		10	"	. "	H	11	SM2320/SOP560
Total Alkalinity	,		U	10		. "	"	" .	SM2320/SOP560
Fluoride	DEI	ND	,			B13F131	06/24/13		300.0/SOP 530
Chloride	REI			0.10		-		•	
		ND		1		B13F109	06/21/13		300.0/SOP 530
Nitrite as N	•	ND		0.10			"		300.0/SOP 530
Nitrate as N			U	0.10	"	. "			300.0/SOP 530
o-Phosphate, as P		ND	U· "	1	"	**	. 11	"	300.0/SOP 530



1337 S. 46th Street, Building 201, Richmond, CA 94804 Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Kelly Manheimer

California Site Cleanup Section 3

Project Number: R13S76

75 Hawthorne Street

SDG: 13172C

Reported: 07/03/13 14:43

Project: Tujunga Wellfield May 2013 IDW Sampling

San Francisco CA, 94105

Sample Results

Analyte		Reanalysis / Extract	Result	Qualifiers / Comments	Quantitation Limit	Units	Batch	Prepared	Analyzed Method
Lab ID:	1306055-05					·	,	Water -	Sampled: 06/20/13 14:30
Sample ID:	TJ-MW-09EB					Conve	entional Chemis	try Paramet	ers by APHA/EPA Methods
Sulfate		•	ND	U	0.50	mġ/L	B13F109	06/21/13	06/21/13 300.0/SOP 530
Perchlorate			ND	U	2	ug/L	B13F132	06/26/13	06/26/13 314.0/SOP531
Sulfide			ND	Ú	0.97	mg/L	B13F118	06/24/13	06/24/13 SM 4500 S2-/SOI 565



1337 S. 46th Street, Building 201, Richmond, CA 94804 Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Kelly Manheimer

California Site Cleanup Section 3

amorma Site Cleanup Section

75 Hawthorne Street

SDG: 13172C **Reported:** 07/03/13 14:43

Project Number: R13S76

Project: Tujunga Wellfield May 2013 IDW Sampling

San Francisco CA, 94105

Quality Control

Analyte	Result	Qualifiers / Qu Comments	nantitation Units	Spike Level	Source Result	%REC	%REC Limits		RPD Limit
Batch B13F109 General Inorganic - Anio	ons						repared & A		
Blank (B13F109-BLK1)		•	Conventional Che	mistry Par	ameters by A	APHA/E	PA Methods	- Quality	Contro
Fluoride	ND	U .	0.1 mg/L						
Chloride	ND	Ū.	1 "						
Vitrite as N	ND	U	0.1 "						
Nitrate as N	ND	U	0.1 "						
p-Phosphate, as P	ND	U ,	1 "						
Sulfate	ND	U	0.5 "		•			**	
LCS (B13F109-BS1)									
Chloride	9.56	· .	1 mg/L	10.0		96	90-110		200
Nitrite as N	4.83	٠,	0.1 "	5.00		97	90-110		200
Vitrate as N	4.91		0.1 "	5.00		98	90-110	•	200
p-Phosphate, as P	9.61	•	1 "	10.0		96	90-110		200
Sulfate	9.81		0.5 "	10.0		98	90-110	*	200
Duplicate (B13F109-DUP1)		Source: 130605							
Sulfate	122	5021001 200000	2.5 mg/L		124			: 1	20
Matrix Spike (B13F109-MS1)		Source: 130605							
Chloride	37.9	Bouree. Rouse	1.1 mg/L	11.0	29.6	75	80-120		20
Vitrite as N	5.14	•	0.11 "	5.49	· ND	94	80-120		20
Nitrate as N	10.7		0.11 "	5.49	5.54	94	80-120		20
p-Phosphate, as P	10.8		1.1 "	11.0	ND	98	80-120		20
Matrix Spike Dup (B13F109-MSD1)	10.0	Source: 130605							
Chloride	37.9	504166. 150005	1.1 mg/L	11.0	29.6	76	80-120	0.07	20
Nitrite as N	5.16		0.11 "	5.49	ND	94	80-120	0.4	20
Nitrate as N	10.7		0.11 "	5.49	5.54	94	80-120	0.2	20
p-Phosphate, as P	11.1	•	1.1 "	11.0	ND	101	80-120	3	20
Batch B13F118 - Sulfide Prep - Sulfide	11.1		***				repared & A		
Saich 613f 116 - Suinde Frep - Suinde			Conventional Che	mistry Par	ameters by		=	-	
Blank (B13F118-BLK1)		*						, Q	00
Sulfide	ND	U	1 mg/L						
LCS (B13F118-BS1)									
Sulfide	9.87		mg/L	9.98		99	80-120		200
Batch B13F131 General Inorganic - Anio						P	repared & A	nolyzod: 0	6/24/1
batti DISF1S1 General morganic - And			Conventional Che	mistry Par	ameters by				
Blank (B13F131-BLK1)	•			inion y i ui	difference by		a i i i i i i i i i i i i i i i i i i i	Quanty	Contr
Fluoride	ND	U .	0.1 mg/L						
Chloride	ND	· U	1 "		`.				
Nitrite as N	ND	U	0.1 "						
Vitrate as N	ND	· U	0.1 "						
p-Phosphate, as P	ND	U	1 "						
Sulfate	ND	U .	0.5 "					,	
Blank (B13F131-BLK2)	- 12-						·		•
Fluoride	ND .	Ŭ .	0.1 mg/L						
1306055 FINAL 07 03 13 1443		<u>-</u>	3.1 <i>g</i> L					Page	



1337 S. 46th Street, Building 201, Richmond, CA 94804 Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Kelly Manheimer

Project Number: R13S76

Project: Tujunga Wellfield May 2013 IDW Sampling

California Site Cleanup Section 3

75 Hawthorne Street San Francisco CA, 94105 SDG: 13172C

Reported: 07/03/13 14:43

Quality Control

Analyte	Result	Qualifiers / Comments	Quantitation Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch B13F131 General Inorganic - Anie	ions						P	repared & A	nalvzed:	06/24/1
Blank (B13F131-BLK2)	•		Conventi	onal Cher	nistry Para	meters by	APHA/E	PA Methods	- Quality	Contr
Chloride	ND			1 "						
Nitrite as N	ND ND	U		1		•				
Nitrate as N	ND ND	U	0.							
o-Phosphate, as P	ND ND	U U	0.							
Sulfate	ND ND	U								
LCS (B13F131-BS1)	·		0.:	· · · · · · · · · · · · · · · · · · ·				<u> </u>		
Fluoride	0.806									
o-Phosphate, as P	0.896			mg/L	1.00		90	90-110		200
Matrix Spike (B13F131-MS1)	9.6	·			0.01		96	90-110		200
Fluoride		Source: 130	6055-01RE2	•			•			
	1.26			mg/L	1.05	0.245	97.	80-120		20
Matrix Spike Dup (B13F131-MSD1)		Source: 130	6055-01RE2							
Fluoride	1.25		0.11	mg/L	1.05	0.245	96	80-120	0.6	20
Batch B13F132 General Inorganic - Perc	chlorate						Pı	epared & Ai	nalyzed: 0	6/26/1
Blank (B13F132-BLK1)			Conventio	nal Chen	istry Para	meters by	APHA/E	PA Methods	- Quality	Contro
Perchlorate	ND	U	2	ug/L						
Blank (B13F132-BLK2)							<u> </u>	.	 :	
Perchlorate	ND	U .	2	ug/L						
LCS (B13F132-BS1)						 				
Perchlorate	9.79			ug/L	10.0		0.0	. 05 115		200
Madelia Calla (Dagrage 2 22)		~	60EE 01	ug/L	10.0		98	85-115		200
Matrix Spike (B13F132-MS1)		Source: 1306								
Matrix Spike (B13F132-MS1) Perchlorate	18.5	Source: 1300		110/I	10.0		105	90 100	•	, ,,,
Perchlorate	18.5		2	ug/L	10.0	8	105	80-120		15
-		Source: 1300	2 6055-01							
Perchlorate Matrix Spike Dup (B13F132-MSD1) Perchlorate	18.5		2 6055-01	ug/L ug/L	10.0	8	121	80-120	9	15
Perchlorate Matrix Spike Dup (B13F132-MSD1)			2 6055-01	ug/L	10.0	8 F	121 repared:	80-120 06/26/13 An	alyzed: 0	15 6/27/13
Perchlorate Matrix Spike Dup (B13F132-MSD1) Perchlorate			2 6055-01	ug/L	10.0	8 F	121 repared:	80-120	alyzed: 0	15 6/27/13
Perchlorate Matrix Spike Dup (B13F132-MSD1) Perchlorate Batch B13F135 - Alkalinity - Alkalinity	20.1	Source: 1300	2 6055-01 2 Convention	ug/L nal Chem	10.0	8 F	121 repared:	80-120 06/26/13 An	alyzed: 0	15 6/27/13
Perchlorate Matrix Spike Dup (B13F132-MSD1) Perchlorate Batch B13F135 - Alkalinity - Alkalinity Blank (B13F135-BLK1)	20.1 ND	Source: 1300	2 6055-01 2 Convention	ug/L	10.0	8 F	121 repared:	80-120 06/26/13 An	alyzed: 0	15 6/27/13
Perchlorate Matrix Spike Dup (B13F132-MSD1) Perchlorate Batch B13F135 - Alkalinity - Alkalinity Blank (B13F135-BLK1) Hydroxide Alkalinity	20.1 ND ND	Source: 1300 U U	2 6055-01 2 Convention	ug/L nal Chem	10.0	8 F	121 repared:	80-120 06/26/13 An	alyzed: 0	15 6/27/13
Perchlorate Matrix Spike Dup (B13F132-MSD1) Perchlorate Batch B13F135 - Alkalinity - Alkalinity Blank (B13F135-BLK1) Hydroxide Alkalinity Carbonate Alkalinity	20.1 ND ND ND	Source: 1300 U U U	2 6055-01 2 Convention 10 10	ug/L nal Chem	10.0	8 F	121 repared:	80-120 06/26/13 An	alyzed: 0	15 6/27/13
Perchlorate Matrix Spike Dup (B13F132-MSD1) Perchlorate Batch B13F135 - Alkalinity - Alkalinity Blank (B13F135-BLK1) Hydroxide Alkalinity Carbonate Alkalinity Bicarbonate Alkalinity	20.1 ND ND	Source: 1300 U U	2 6055-01 2 Convention	ug/L nal Chem mg/L "	10.0	8 F	121 repared:	80-120 06/26/13 An	alyzed: 0	15 6/27/13
Perchlorate Matrix Spike Dup (B13F132-MSD1) Perchlorate Batch B13F135 - Alkalinity - Alkalinity Blank (B13F135-BLK1) Hydroxide Alkalinity Carbonate Alkalinity Bicarbonate Alkalinity Cotal Alkalinity	ND ND ND ND ND	Source: 1300 U U U	2 6055-01 2 Convention 10 10	ug/L nal Chem mg/L "	10.0	8 F	121 Prepared: APHA/EI	80-120 06/26/13 An PA Methods -	alyzed: 0	15 6/27/13 Contro
Perchlorate Matrix Spike Dup (B13F132-MSD1) Perchlorate Batch B13F135 - Alkalinity - Alkalinity Blank (B13F135-BLK1) Hydroxide Alkalinity Carbonate Alkalinity Bicarbonate Alkalinity Cotal Alkalinity CS (B13F135-BS1)	20.1 ND ND ND	Source: 1300 U U U U	2 6055-01 2 Convention 10 10 10	ug/L nal Chem mg/L "	10.0	8 F	121 Prepared: APHA/EI	80-120 06/26/13 An	alyzed: 0	15 6/27/13
Perchlorate Matrix Spike Dup (B13F132-MSD1) Perchlorate Batch B13F135 - Alkalinity - Alkalinity Blank (B13F135-BLK1) Hydroxide Alkalinity Carbonate Alkalinity Bicarbonate Alkalinity Cotal Alkalinity CCS (B13F135-BS1) Cotal Alkalinity	ND ND ND ND ND	U U U U U Source: 1306	2 Convention 10 10 10 10 10	ug/L mal Chem mg/L " " mg/L	10.0	8 Fineters by	121 Prepared: APHA/EI	80-120 06/26/13 An PA Methods -	alyzed: 0	15 6/27/13 Contro
Perchlorate Matrix Spike Dup (B13F132-MSD1) Perchlorate Batch B13F135 - Alkalinity - Alkalinity Blank (B13F135-BLK1) Hydroxide Alkalinity Carbonate Alkalinity Bicarbonate Alkalinity Cotal Alkalinity CCS (B13F135-BS1) Cotal Alkalinity Duplicate (B13F135-DUP1)	ND ND ND ND ND	U U U U U Source: 1306	2 Convention 10 10 10 10 10 10 10 10 10	ug/L mg/L " mg/L mg/L	10.0	8 Fineters by	121 Prepared: APHA/EI	80-120 06/26/13 An PA Methods -	alyzed: 0	15 6/27/13 Contro 200
Perchlorate Matrix Spike Dup (B13F132-MSD1) Perchlorate Batch B13F135 - Alkalinity - Alkalinity Blank (B13F135-BLK1) Hydroxide Alkalinity Carbonate Alkalinity Sicarbonate Alkalinity Cotal Alkalinity CS (B13F135-BS1) Otal Alkalinity Duplicate (B13F135-DUP1) Hydroxide Alkalinity	ND ND ND ND ND	U U U U U Source: 1306	2 Convention 10 10 10 10 10	ug/L mal Chem mg/L " " mg/L	10.0	8 Fineters by	121 Prepared: APHA/EI	80-120 06/26/13 An PA Methods -	alyzed: 0	15 6/27/13 Contro



1337 S. 46th Street, Building 201, Richmond, CA 94804 Phone:(510) 412-2300 Fax:(510) 412-2302

Project Manager: Kelly Manheimer

Project Number: R13S76

Project: Tujunga Wellfield May 2013 IDW Sampling

California Site Cleanup Section 3

75 Hawthorne Street

San Francisco CA, 94105

SDG: 13172C

Reported: 07/03/13 14:43

Qualifiers and Comments

Q4 The matrix spike and/or matrix spike duplicate associated with this sample did not meet recovery criteria for this analyte (see MS/MSD results for this batch in QC summary)

J The reported result for this analyte should be considered an estimated value.

U Not Detected

NR Not Reported

RE1, RE2, etc: Result is from a sample re-analysis.